Chapter 6
Introduction to JavaScript

- To open JS developer console on Chrome,
    RightClick -> InspectElement -> "Console"Tab
  It is used to play around and test things out, basically.

- Five primitive datatypes of JS:
  1. Numbers (4,9.3,-3): It is a category for all types of numbers...
  2. Strings ("Hello!",'43'): Single/Double quotes, both OK.
  3. Booleans (true,false)
  4. "null" and "undefined"

- Classical operations with numbers:
    `+,-,/,*,%`

- Operations with Strings:
    1. Concatenation:
      `"ali" + "veli"` *//"aliveli"*
    2. Escape character is \
      \\,\"
    3. "Length" property:
      `"ali".length` *//11*
    4. Accessing individual elements: (indexing starts with 0)
      `"ali"[1]` *//a*
    Ex: `"ali\\".length` //equals 4 because one of the backslashes is the escape character! And so won't even be showwing up in the original string.

- Three types of naming the variables:
  1. camelCase: capital letter is in lowercase but the capital letter of every following word is in upper case
  2. snake_case: all in lowercase but there is an underscore between every word
  3. kebab-case (dash-case): all in lowercase but there is a dash between every word
    "camelCase" is used in JS

Defining Variables in JS
  - JS has dynamic typing which means we can change the variable types from one to another with just reassigning, it doesn't require any additional steps

  - To store variables in JS, we use `"var"`, `"let"` or `"const"` keywords,
    1. var
      - var is scoped to "current execution context" AKA a variable's enclosing function or the global scope
      - can be reassigned whenever wanted
      - initializing value is optional
      - can be redeclared at any point (its datatype can be changed)
      - global variables are added to window
      Examples:

```
var name = "Omer";
   name + "Erol" = "OmerErol"
   name = 99; //reassigning the variable with a different type
     2 + name = 101
 var myNum = 52;
   8 + myNum = 60
   myNum = 8; //reassigning the variable
     8 + myNum = 16
```

2. let
   - let is "block scoped"
   - doesn't create property on global window object
   - initializing value is optional
   - can be reassigned
   - cannot be redeclared in the same scope! (its datatype cannot be changed)

3. const
   - const is also "block scoped"
   - not immutable, but variable reference cannot change
   - cannot be reassigned!
   - must be initialized with value!
   - doesn't create property on global window object
   - cannot be redeclared in the same scope (its datatype cannot be changed)
   - its value cannot be changed but if it's a list or sth its content can be updated but its reference cannot be

- undefined: Variables that were declared but not initilalized which means when we create a variable and not initialize it, it's value becomes "undefined",

```
  var age;
```

- null: null is 'explicitly (on purpose and willingly) nothing',

```
  var currentPlayer= "Charlie";
    currentPlayer = null; //game over
```

Commenting in JS

1. one-line commenting It is done with double slashes,
   //this is a one-line comment
2. multiple-line commenting: It is done with slash and stars,
   / this is a multiple*
   *line comment! */*

- clear() function clears the console when used on the browser console.

Built-in Methods in JS

1. alert: It pops up a message to the user, so it basically alerts the user,

```
   alert("Congratulations!");
     alert(52);
     alert(192+8); //200
```

2. console.log: Prints something to the JS console so if someone doesn't have the console open, he naturally won't see this message,

```
   console.log("this is my console!")
     console.log(9/3) //3
```

3. prompt: It lets us get input fron the user,

```
   prompt("Tell us your age please:")
     var userName = prompt("Tell us your name please:");
```

- Some of scripts should go in the head, some of them in the body! If you put the script up top, it's going to run first.

- After selecting a word, hitting "Ctrl + D" will select the next matching word with the selected one. So by repeating this all the repeatings of that word will be selected simultaneously so that we can easily change them at the same time.